

Statement of Legal and Factual Basis

1. Introduction

1. Facility Information

Permittee

E. I. DuPont de Nemours and Company, Inc.
1201 Bellwood Road
Richmond, Virginia 23237

Facility

DuPont James River Plant
1201 Bellwood Road
Chesterfield County, Virginia

Responsible Official

Timothy W. Hix
Plant Manager
(804) 383-6074

Facility Contact

Frank H. Dreusicke
Environmental Engineer
(804) 383-6072

Registration No.: 50554
County Plant ID No.: 041-0078

2. Source Description

Primary SIC Code - 2819 (sulfuric acid production process). The sulfuric acid production process produces primarily 100% sulfuric acid for sale to external customers. Another grade of sulfuric acid produced by the plant, designated PS3, is piped to the DuPont Spruance Plant.

Secondary SIC Code - 3275.

Weak acid from the Spruance Plant is piped back to the James River facility where it is used to manufacture carbon dioxide, and gypsum from aragonite.

a. Compliance History

Except for the gypsum processing plant, all of the equipment at the facility is either grandfathered or exempt from permitting. A NSR permit has been prepared for the Gypsum Plant and construction commenced prior to the promulgation of 40 CFR 60, Subpart OOO in 1983. Facility inspections since 1983 have been recorded in the AFS database, and all have found the facility to be in compliance with applicable existing source rules.

There is a Consent Agreement and Order, dated June 7, 1985, between the SAPCB and "Mineral By-Products, Incorporated." According to the consent order, Mineral By-Products commenced construction at "the DuPont's James River Acid Neutralization Plant for the solidification and consolidation of gypsum produced at DuPont's James River Acid Neutralization Plant in Chesterfield County without first obtaining a permit from the BOARD." A

permit application had been submitted on April 8, 1985 and additional information regarding the facility was submitted on May 14, 1985. An NOV was issued to Mineral By-Products on May 15, 1985. The Consent Agreement assessed a civil charge of \$200. There is no record in the file of any permit application, or of any permit subsequently issued to Mineral By-Products, Inc. or DuPont James River Plant for the gypsum production process.

2. Emissions Inventory

An emission update was received for the year 1996.

An AFS 644 report for the facility (emission year 1996) is attached.

3. Applicable Requirements

1. Emission Unit Applicable Requirements

There are only three significant emission units at this facility: the Sulfuric Acid Production Process (including the Sulfur Burner) (001), the Gypsum Production Process (002), and an Emergency Boiler (003). None of the emission units are permitted, and only the Sulfuric Acid Production Process and Gypsum Production Process have applicable requirements specific to the emission units.

The Sulfuric Acid Production Process (001) has the following requirements:

- 9 VAC 5-40-2860 of Virginia Regulations: Sulfuric acid mist emissions must not exceed 0.5 lb/ton 100% sulfuric acid produced.

- 9 VAC 5-40-2850 - Standard for Sulfur Dioxide

"No owner or other person shall cause or permit to be discharged into the atmosphere from any sulfuric acid production unit any sulfur dioxide emissions in excess of a concentration of 2000 ppmv and a mass emission rate of 27 pounds per ton of 100% sulfuric acid when elemental sulfur is used for feed material...These emission levels may be exceeded for a period not longer than 24 hours during start-up."

- 9 VAC 5-40-2860 - Standard for Sulfuric Acid Mist

"No owner or other person shall cause or permit to be discharged into the atmosphere from any sulfuric acid production unit any sulfuric acid mist emissions in excess of 0.5 pound per ton of sulfuric acid produced, the production being expressed as 100% H₂SO₄."

The Sulfuric Acid Plant will be required to keep records on the following items to show compliance with the emissions standards:

- Emissions data for sulfuric acid and sulfuric acid mist
- Results of all stack tests, visible emission evaluations and

- performance evaluation;
- Production of sulfuric acid, calculated monthly as the sum each consecutive twelve (12) month period; and
- Periods of non-performance of all emission monitors.

The Gypsum Production Process (002) has the following requirements:

- 9 VAC 5-50-260 - State BACT Standard for Visible Emissions

Visible emissions shall not exceed 10 % opacity.
- 9 VAC 5-50-240-390 - Standards of Performance For Stationary Sources, Rule 5-4)

b. General Applicable Requirements

- 9 VAC 5-40-80 - Standard for Visible Emissions

Visible emissions shall not exceed 20 % opacity, except for one six minute period in any one hour of not more than 60% opacity.

- 9 VAC 5-40-90 - Standard for Fugitive/Dust Emissions

The facility must take reasonable precautions to prevent particulate matter from becoming airborne, such as:

- 1) application of water/chemicals
- 2) installation of hoods, fans, or fabric filters
- 3) conveyors should be covered or treated in an equally effective manner at all times when in motion
- 4) maintain facility cleanliness

c. Future Applicable Requirements -

- 40 CFR Part 68 - Accidental Release Prevention Provisions

The facility submitted a Risk Management Plan on or before June 20, 1999. They are now required to provide an update to the Risk Management Plan no less than every 5 years as specified 40 CFR § 68.190.

d. Inapplicable Requirements - Standard

- 40 CFR 60, NSPS Subpart OOO is not applicable to the Gypsum Plant because it was built in 1983 before the NSPS OOO was promulgated.

e. Exclusions - N/A

- f. Determinations - N/A
- 4. Standard Terms and Conditions - There are no standard terms and conditions specific to this source category.
- 5. Insignificant Activities
 - Emergency diesel generator (I002) - 235 hp (**capacity**)
 - Gasoline storage tank (I003) - 1,000 gallons (**capacity**)
 - Roadways and Parking Lots (I004) - (PM **emissions**)
 - Cold Cleaner (I005) - (VOC **emissions**)
 - Product Truck and Rail Loading (I006) - (sulfuric acid mist **emissions**)
 - Unloading Molten Sulfur Pit (I007) - (hydrogen sulfide **emissions**)
 - Process Feed Molten Sulfur Pit (I008) - (hydrogen sulfide **emissions**)
 - Diesel storage tank (I009) - 1,000 gallons (**capacity**)
 - #2 Fuel Oil storage tank (I010) – 6,200 gallons (**capacity**)
- 6. Public Participation - The draft permit went to public notice in the Richmond Times-Dispatch on June 17, 2001. The comment period lasted for 30 days. The only comments submitted were by Dave Campbell from EPA Region III in a letter dated July 16, 2001. Those comments were addressed in a letter dated September 24, 2001 and the appropriate changes were made to the draft permit. During the proposed permit period to EPA, Dave Campbell also commented that 9 VAC 5-170-160 citations could not be used in Title V permits because it was not part of the approved SIP. The 9 VAC 5-170-160 citations were changed to an appropriate citation that is in the approved SIP. He also asked that the existing source opacity standard be clarified to say that the opacity limits is in effect at all times. This change was also made.
- 7. Confidentiality - N/A